COMPAQ

Hardware Guide

Compaq Armada™110 Series

Part Number: 231395-001

March 2001

This guide provides comprehensive information on setting up the computer hardware and software, identifying computer components, using the battery pack, connecting external devices, and adding upgrades and accessories.

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1

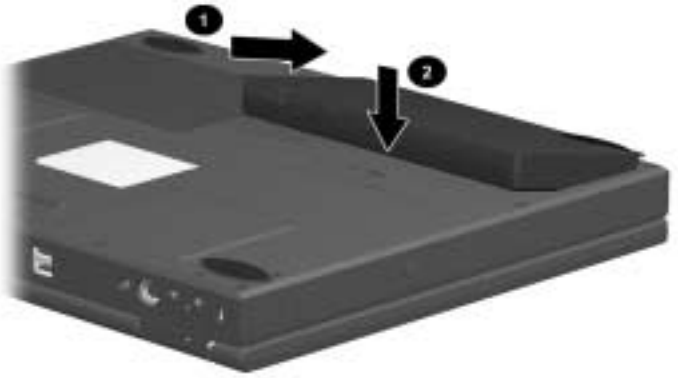
Hardware and Software Setup

Setting Up the Hardware

1. Record the Product Key for your operating system. You will need to enter or verify this number during software setup. You may also need it to update or troubleshoot your operating system. The Product Key is located on the Certificate of Authenticity label on the bottom of the computer.

Locating the Product Key

2. Locate the battery pack in the shipping box. If tape is covering the battery contacts, remove it before installing the battery pack.
3. Install the battery pack into the battery compartment.
   a. Turn the computer bottom side up.
   b. Insert the battery at a 45-degree angle into the compartment ❶, ensuring that the battery tabs are flush with the front edge of the compartment.
   c. Press down the battery pack until the release latch ❷ clicks.



Installing the battery pack

4. Turn the computer top side up and place it on a flat surface near an electrical outlet.

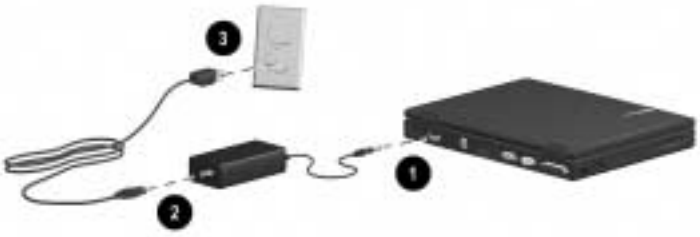
WARNING: This is a Class B digital device, pursuant to Part 15 of the FCC Rules. For more Class B information, refer to the *Regulatory and Safety Notices* guide on the *Compaq Portable Product Reference Library* CD, included with the computer.

To reduce the risk of personal injury, electric shock, fire, or damage to the equipment:

- Do not disable the power cord grounding plug. It is an important safety feature.
- Plug the equipment into a grounded (earthed) electrical outlet that is easily accessible at all times.

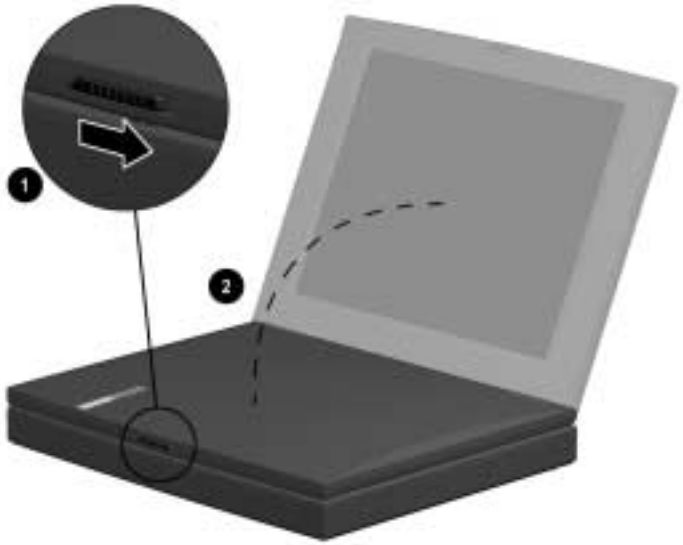
5. Connect the computer to external power.
   Plug the AC Adapter cable into the power connector ❶. Plug the power cord into the AC Adapter ❷ and into an electrical outlet ❸.

Power cords and electrical outlets vary by country.



Connecting the AC Adapter and power cord

6. Open the computer by sliding the display latch to the right ❶ and raising the display ❷.



Opening the computer

7. Turn on the computer by pressing the power button ❶.

Turning on the computer

When power is turned on:

- The power/standby light ❷ turns on.
- The battery pack in the battery compartment begins to charge and the battery light turns on. The battery light:
  - Remains on while the battery pack is charging.
  - Turns off when the battery pack is fully charged.
- You are prompted to begin software setup.

Setting Up the Software

Completing Initial Setup

You can begin initial setup as soon as the computer is connected to external power and the initial setup prompt appears on the screen.

Before responding to the initial setup prompt and proceeding through the online instructions, read the following caution and other initial setup information:

CAUTION: To prevent file corruption and ensure that the correct drivers install during initial setup:

- Do not unplug the computer from the electrical outlet.
- Do not shut down the computer.
- Do not remove or insert a drive.

- Once you begin initial software setup, you must complete the entire process. Setup time varies by computer configuration.
- If you are prompted to select a language or operating system, choose carefully.
  - ❏ The languages and operating system that you do not choose will be deleted from the system and cannot be restored during initial setup.
  - ❏ An operating system available during initial setup is enhanced by Compaq. When an operating system is deleted, the enhancements are also deleted.
- During the setup process, you must accept the End User License Agreement to continue. The Product Key referenced on the License Agreement screen is on the Certificate of Authenticity label on the bottom of the computer. You may want to verify that the Product Key displayed on the screen is the same as the number on the label.

Installing Optional Applications

You can install third-party applications or preloaded Compaq utilities at any time after initial setup is complete.

- To install a third-party application, refer to the documentation included with the application.
- To install a preloaded Compaq utility, select the Setup Compaq Software icon on the Desktop, then follow the instructions on the screen.

  If the icon does not display on the Desktop after initial setup is complete, select Start > Run. On the command line, type:

  C:\cpqapps\setup.exe preload /s

To view the descriptions and space requirements of preloaded Compaq utilities without installing them, select the Setup Compaq Software icon on the Desktop, then select Next. After viewing the utility information, select Cancel.

After Software Setup

After the initial setup is complete, you may want to:

- Calibrate the battery pack.

  Although you can use a new battery pack that has been fully charged to run the computer, the computer cannot accurately report the amount of charge in the battery pack until the battery pack has been calibrated. For calibration information and instructions, refer to the “Battery Packs” chapter in this guide.

- Read suggestions for creating a safe and comfortable work environment.

  Ergonomic and safety information about the computer is provided in the *Safety & Comfort Guide* on the *Notebook Products Reference Library CD* included with the computer.

WARNING: To reduce the risk of personal injury, electric shock, fire, or damage to the equipment:

- Disconnect power from the equipment by unplugging the power cord from the electrical outlet.
- Do not place anything on power cords or cables. Arrange them so that no one may accidentally step on or trip over them.
- Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.

2

A Look at the Computer

Top Components

Top Components

	Component	Function
❶	Display switch	Turns off the computer display if the computer is closed while on.
❷	Power button	Turns on the computer.To turn off the computer, use the operating system Shut Down command.
❸	Easy Access Buttons	Four buttons that provide quick access to the Internet. Refer to the Chapter 3, "Keyboard and Pointing Devices," for information about these buttons.
❹	Stereo speakers (2)	Produce stereo sound.
❺	Microphone	Inputs single-channel sound to the computer; can be used whether the computer is open or closed.
❻	Windows application key	Displays the shortcut menu for the item beneath the pointer.
❼	TouchPad and TouchPad buttons	Moves the cursor, selects and activates. The right and left buttons function like buttons on an external mouse.
❽	Microsoft logo key	Displays the Windows Start menu.

Top Component Lights

	Component	Function
❶	Power/standby light	On: Power is turned on. Blinking: Computer is in Standby. The power/standby light also blinks if a battery pack that is the only available power source reaches a low-battery condition.
❷	Battery light	On: A battery pack is charging. Blinking: A battery pack that is the only available power source has reached a low-battery condition.
❸	Num lock light	On: Num lock is on and the embedded numeric keypad is enabled.
❹	Caps lock light	On: Caps lock is on.
❺	Scroll lock light	On: Scroll is on.

Right Side Component

Right Side Component

Component	Function
Optical disc drive	Depending on model, provides a CD or DVD drive.

Left Side Components

Left Side Components

	Component	Function
❶	Infrared port	Links to another IrDA-compliant device for wireless communication.
❷	PC Card slot	Supports a 32-bit (CardBus) or 16-bit PC Card.
❸	PC Card eject button	Ejects a PC Card from the PC Card slot.
❹	Diskette drive	Reads and writes information onto a 3.5-inch/8.89-cm diskette.

Rear Panel Components

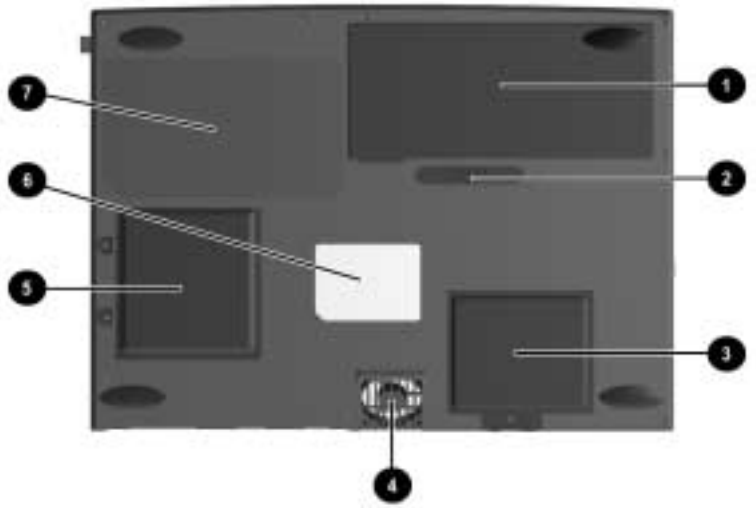
Rear Panel Components

	Component	Function
❶	Security slot	Attaches an optional security cable to the computer.
❷	Stereo line-out/headphone jack	Connects stereo speakers, headphones, headset, or television audio.
❸	Stereo line-in jack	Connects a CD player, turner, or tape deck.
❹	Keyboard/mouse connector	Connects an external keyboard or PS/2-compatible external mouse. ✎ To connect a keyboard and a mouse at the same time, use an optional Y-adapter.
❺	DC power jack	Connects any one of the following: ■ AC Adapter ■ Optional Automobile Power Adapter/Charger ■ Optional Aircraft Power Adapter

Rear Panel Components *(Continued)*

	Component	Function
❻	RJ-11 jack (internal modem models only)	Connects the modem cable to an internal modem. A modem cable is included with internal modem models.
❼	RJ-45 jack (network models only)	Connects the network cable. A network cable is not included with the computer.
❽	USB connectors (2)	Connects USB devices.
❾	Vent	Allows airflow to cool internal components. △ **CAUTION:** To prevent damage, the system will shut down if a severe overheating condition occurs. To prevent loss of information, do not block the cooling vent. Avoid placing the computer on a blanket, rug, or other flexible surface that may cover the vent area.
❿	External monitor connector	Connects an external monitor or overhead projector.
⓫	Serial connector	Connects a serial device.
⓬	Parallel connector	Connects a parallel device.

Bottom Components



Bottom Components

	Component	Function
❶	Battery compartment	Holds the battery pack.
❷	Battery release latch	Releases the battery pack from the battery compartment.
❸	Mini PCI (personal computer interface) compartment cover	Covers the modem, Network Interface Card (NIC) or other compatible Mini PCI board in the compartment.
❹	Vent	Allows airflow to cool internal components.

Bottom Components *(Continued)*

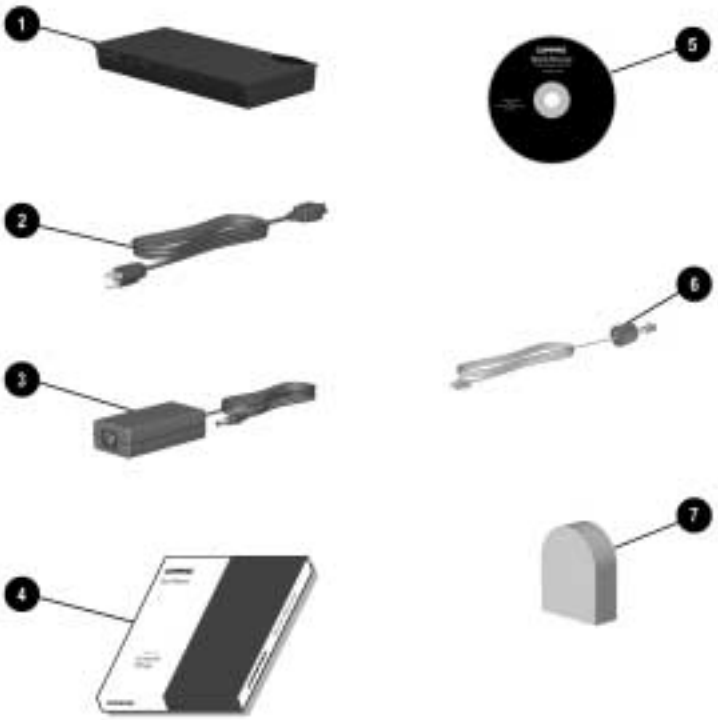
	Component	Function
❺	Memory expansion compartment cover	Covers the memory expansion compartment that contains two memory expansion slots for memory expansion boards.
❻	Serial number	Identifies the computer; needed when you call Compaq customer support.
❼	Certificate of Authenticity label	Contains the Product Key, which may need to be entered before using some Windows operating systems.

Additional Standard Components

The components included with the computer vary by geographic region and the computer hardware configuration ordered.

The following illustration and table identify the standard components included with most computer models.

Some components ship inside computer compartments identified in previous sections and are not included in this illustration.



Additional Standard Components

	Component	Function
❶	Battery pack	Allows the computer to operate on battery power. Installs in the battery compartment on the bottom side of the computer.
❷	Power cord	Connects the AC Adapter to an AC electrical outlet.
❸	AC Adapter	Converts AC power to DC power.
❹	QuickRestore kit	Contains the software preinstalled on the computer.
❺	*Notebook Products Reference Library* CD-ROM	Contains the following guides: ■ *Hardware Guide* ■ *Modem and Networking* ■ *Modem Commands* ■ *Maintenance, Shipping and Travel* ■ *Troubleshooting* ■ *Regulatory and Safety Notices* ■ *Safety & Comfort Guide*
❻	Modem cable (internal modem models only)	Connects the modem to an RJ-11 telephone jack or to a country-specific adapter.
❼	Country-specific modem adapter (included with internal modem models by region as required)	Adapts the modem cable to a non-RJ-11 telephone jack.

3

Keyboard and Pointing Devices

Using the TouchPad

The TouchPad performs the same basic operations as a mouse. It functions with any software that supports a Microsoft-compatible mouse. The TouchPad ❶ includes left ❷ and right ❸TouchPad buttons for function or application selection. To operate the TouchPad, slide your finger across its surface in the direction you want to move the cursor and click the left or right button to make a selection or complete an activity.

Identifying TouchPad components

Using Hotkeys

Hotkey Quick Reference

Function	Hotkey	Return to Original State
Switch display and image (switching between the display and external monitor)	**Fn+F3**	**Fn+F3**
Standby	**Fn+F4**	Press any key
Adjusts screen brightness	**Fn+F7** (decrease) **Fn+F8 (**increase)	**Fn+F8** (increase) **Fn+F7 (**decrease)

Hotkeys

Hotkeys are preset combinations of the **Fn** key ❶ and another key that access or execute frequently used system functions. The icons on the function keys **F3** to **F8** ❷ represent these functions.

Hotkeys can be used at anytime and from within any application.

Identifying the Hotkeys

Switch Display and Image (Fn+F3)

- **Microsoft Windows 2000 Professional** —Toggle **Fn+F3** to switch the image among
  - Computer display
  - External display
  - Simultaneous display (computer and external displays)

The external monitor can be connected through the external monitor connector.

- **Microsoft Windows Millennium Edition (Me)or Windows 98 with MultiMonitor disabled**—Toggle **Fn+F3** to switch the image among
  - ❏ Computer display
  - ❏ External display
  - ❏ Simultaneous display (computer and external displays)

The external monitor can be connected through the external monitor connector.

- **Microsoft Windows Me or Windows 98 with MultiMonitor enabled**—Press **Fn+F3** to turn off an external display connected to the external monitor connector and to disable MultiMonitor.

Initiating Standby (Fn+F4)

Press **Fn+F4** keys to manually put the computer in Standby. The computer will automatically go into Hibernation after one hour of Standby. To wake the computer, press any key.

Adjust Screen Brightness (Fn+F7 and Fn+F8)

Press **Fn+F7** to decrease the display screen brightness. To increase the screen brightness, press **Fn+F8.**

Using the Embedded Numeric Keypad

The embedded numeric keypad consists of a cluster of 16 keys ❶. The character in the upper right corner of each of the keys indicates the keypad function of that key.

The standard keyboard functions of the keys in the keypad are disabled when the keypad is enabled.

Enabling the Numeric Keypad

To enable the keypad, press **Fn+num lk** ❷. The num lock light ❸ turns on when the keypad is enabled.

The keypad cannot be enabled while an optional external keyboard or numeric keypad is connected to the computer.

Identifying the embedded numeric keypad

Disabling the Numeric Keypad

To disable the keypad and return the keys to their standard keyboard functions, press **Fn+num lk.**

Converting the Numeric Keypad Keys to Standard Keys

To use the keypad keys temporarily as standard keys while the keypad is enabled:

- Press and hold **Fn** to type in lowercase.
- Press and hold **Fn+shift** to type in uppercase.

When the **Fn** key is released, the keypad function returns.

Using the Easy Access Buttons

The Easy Access Buttons software, preinstalled on the computer, lets you program the Easy Access buttons on the computer keyboard to access any Internet addresses or to open any software application or data file on your hard drive. Each of the four Easy Access buttons is identified by an icon.

You can use the Easy Access Buttons software to:

- Create and assign button schemes, which are a collection of button assignments that you define and that are unique to your Windows user profile.
- Change a button name or assignment within a scheme.
- Delete or add button schemes.

For procedures on programming the Easy Access buttons, refer to the online help file. Select Start > Settings > Control Panel > Easy Access Keyboard icon. From the Easy Access Buttons window, select Help.

Identifying the Easy Access buttons

4

Battery Packs

Charging a Battery Pack

To charge a battery pack, insert the battery in the battery compartment and connect the computer to AC power. Leave the computer plugged into the electrical outlet until the Battery Charging light is green. This ensures that the battery is fully charged.

Using a New Battery Pack

Charge the battery pack in the computer's battery compartment while connected to an external power source.

A new battery pack should be fully charged before it is used for the first time. The battery pack will work without being fully charged, but the battery gauge will not show an accurate charge until the battery pack receives its first full charge.

Replacing a Battery Pack

You can resolve a low battery condition by replacing a discharged battery pack.

CAUTION: If you are removing a battery pack that is the only power source available to the system while the computer is on, initiate Standby before removing the battery pack. Failure to do so will result in loss of information. If the computer is on and connected to more than one power source, you can remove a battery pack without initiating Standby.

1. If the battery pack in the battery compartment is the only power source, initiate Standby by pressing the **Fn+F4** hotkeys.

Drive activity may delay Standby.

2. Close the display and turn the computer bottom side up.
3. To remove the battery pack, slide and hold the battery release latch ❶ to the right and lift the battery pack from the compartment ❷.

Removing the battery pack

4. To insert the battery pack, angle the battery pack into the compartment with the battery contacts facing inward ❶. Press down on the battery pack until it is fully seated and the battery release latch clicks ❷.

Inserting the battery pack

5. Open the display.
6. Press the power button to resume operation.

Calibrating the Battery

If the battery gauge becomes inaccurate, you must recalibrate the battery pack. Recalibrating the battery means recharging the battery to its maximum capacity and resetting the battery gauge to accurately display the level of charge.

1. Plug in the AC adapter.
    a. Allow the battery pack to charge until the battery charge light turns off, showing that the battery pack is fully charged.
    b. After the battery charge light or the icon turns off, unplug the AC adapter.

2. Turn on or restart the computer.

Steps 3 through 5 prevent the computer from entering Standby. Follow these steps also allow the battery pack to drain faster.

3. On the Windows taskbar, select Start > Settings > Control Panel.
4. Select the Power Management icon > Power Schemes tab.
5. From the Running on Batteries column:
    a. In the Turn Off Monitor, select Never.
    b. In the Turn Off Hard Disk, select Never.
    c. In the System Standby, select Never.
6. Select OK to close the Power Management Properties box.
7. Let the battery pack drain until the computer reaches Hibernation and turns off.
8. Plug in the AC adapter. Restart the computer.
9. Return to the Power Management Properties dialog box under Control Panel and reenter the Power Savings settings to the desired level.
10. Allow the battery pack to fully charge.

The battery is now calibrated.

Storing a Battery Pack

If a computer will be unused and unplugged for more than two weeks, remove and store the battery pack.

CAUTION: To prevent damage to a battery pack, do not expose it to high temperatures for extended periods of time.

To prolong the charge of a stored battery pack, place it in a cool, dry place. High temperatures cause a battery pack to lose its charge more quickly, thus reducing battery life.

The recommended storage temperature range is from 32°F to 86°F (0°C to 30°C).

Recycling a Used Battery Pack

To determine if the battery pack recycling program is available in your geographical region, refer to the *Regulatory and Safety Notices* guide on the *Notebook Products Reference Library* CD. If your region is not covered, refer to the *Worldwide Telephone Numbers* guide included with the computer to contact your Compaq authorized dealer, reseller, or service provider.

5

Drives

The computer provides the following drives that allow you to store and access data:

- Diskette drive
- Hard drive
- One of the following optical drives:
  - CD drive
  - DVD drive

Caring for Drives

To avoid unexpected loss of information caused by virus or accidents, regularly back up the information on a hard drive.

Refer to the *Regulatory and Safety Notices* guide on this CD for FDA regulations on laser-based drives and to the *Maintenance, Travel, and Shipping* guide on this CD for information on caring for the hard drive.

Removing and Inserting Storage Media

Inserting and Removing a Diskette

To insert a diskette into the diskette drive, hold the diskette with the label facing up and the arrow on the diskette pointing toward the drive, and gently push the diskette into the drive.

To remove a diskette, press the eject button on the diskette drive.

Inserting a Disc into the CD or DVD Drive

1. Turn on the computer.
2. Press the eject button on the front panel of the media tray to open it.

Opening the media tray

3. Slowly pull out the tray.

4. Press the disc onto the tray spindle. Handle the disc by the edges, not the flat surfaces.

Inserting the disc

5. Close the media tray.

The light on the drive turns on while the disc table of contents is being read. The light turns off when the drive is ready to receive commands.

Viewing the CD

When autorun is enabled, the CD contents will appear on the screen.

If autorun is not enabled:

1. Click Start > Run, then type:

   X:\program\autorun.exe

   (where X = your CD drive designation)

2. Select the OK button.

Removing a Disc from the CD or DVD Drive

1. Turn on the computer.
2. Press the eject button on the front panel of the media tray to open it.
3. Remove the disc.
4. Slowly pull out the tray until it is fully extended.
5. Remove the disc from the tray. Handle it by the edges, not the flat surfaces.
6. Place the disc in its protective case.
7. Close the media tray.

Changing the Startup Sequence

The computer can start up from most bootable media or devices. A bootable medium or device contains files needed by the computer to start up and operate properly.

When more than one bootable medium or device is in the system, the computer selects the medium or device to start from by searching sequenced locations. The startup sequenced for this computer is first the diskette drive, second the optical drive, and third the hard drive.

You can change the sequence in which the computer searches for a startup medium or device by selecting the Boot Device menu in the PhoenixBIOS Setup Utility (PSU). To run PSU, press **F10** during system startup.

6

Audio

Using Audio Features

The computer provides the following external audio features, which are described in the “Audio Components” table:

Identifying audio features

Audio Components

	Component	Function
❶	Stereo speakers	Provide audio playback of multimedia applications.
❷	Stereo line-in jack	Supports a single line channel (monaural) microphone with a 3.5-mm plug.
❸	Stereo line-out /headphone jack	Provides input from an external stereo player such as a CD player, stereo turner, or tape deck.

Connecting to the Stereo Line-Out /Headphone Jack

When connecting a device to the stereo line-out jack:

- Use only a 3.5-mm stereo plug.
- Use 32-ohm headphones and at least 8-ohm external speakers for best sound quality.

The stereo line-out jack disables the computer speaker when an external audio device is plugged into the jack.

WARNING: To reduce the risk of personal injury, turn down the volume control before putting on headphones.

CAUTION: To prevent possible damage to an external device, do not plug a single-sound channel (monaural) connector into the stereo speaker/headphone jack.

Connecting to the Stereo Line-In Jack

When connecting an external stereo player, such as a CD player, stereo tuner, or tape deck to the line-in jack:

- Input device must have a 3.5-mm stereo plug.
- Line input levels of 4.25 volts to 9.5 volts must be supplied, which meet the line output specifications of most stereo players.

Adjusting Volume

To increase, decrease, or mute the system volume, use the Windows volume control window: double-click the volume icon on the taskbar, then make your adjustment.

Volume can also be adjusted within some applications.

7

External Device Connections

External devices can be physically connected to the computer. In addition, some computer models can provide connections between infrared equipped devices. Refer to “A Look at the Computer” section in this guide to locate the connectors on your computer. This section provides procedures for connecting external devices to the computer.

Connecting an External Keyboard or Pointing Device

The keyboard and external pointing devices need software device drivers to operate. The necessary drivers are provided by the manufacturer or may be preinstalled with the operating system.

To connect an external keyboard or external PS/2 mouse to the computer, connect the cable to the keyboard/mouse connector on the computer.

To connect both an external keyboard and PS/2 external mouse or external trackball to the single keyboard/mouse connector, purchase a Y-adapter. The adapter connects the single keyboard/mouse connector into two connectors.

Connecting an External Monitor

CAUTION: To prevent damage to the computer, turn off the monitor before connecting it to the computer or disconnecting it from the computer. To prevent damage to the computer display, do not place an external monitor or any other object on top of the computer when the computer is closed.

To connect an external VGA monitor:

1. Turn off the monitor.
2. Plug the monitor signal cable into the external monitor connector on the rear panel of the computer.
3. Plug the monitor power cord into a properly grounded electrical outlet.
4. Turn on the monitor.
5. To ensure that the computer recognizes your monitor type, refer to the operating system documentation and select the appropriate manufacturer and model.

If the external monitor does not immediately show an image, try using the **Fn+F3** hotkeys. Refer to the documentation included with the monitor for additional setup information.

Connecting a Serial Printer

1. Turn off the printer.
2. Plug the printer end of the printer signal cable into the printer.
3. Connect the serial printer signal cable to the serial connector on the rear panel of the computer.
4. Plug the printer power cord into a properly grounded electrical outlet.
5. Turn on the printer.

The Microsoft Windows operating system should prompt you to set up the printer before printing for the first time. If setup fails, consult the printer documentation for information and instructions on device driver.

Connecting a Parallel Printer

1. Turn off the printer.
2. Plug the printer end of the printer signal cable into the printer.
3. Connect the signal cable to the parallel connector on the rear panel of the computer.
4. Plug the printer power cord into a properly grounded electrical outlet.
5. Turn on the printer.

The Microsoft Windows operating system should prompt you to set up the printer before printing for the first time. If setup fails, consult the printer documentation for device driver configuration information and instructions.

Connecting Infrared Equipment

The infrared port allows communication between the computer and another infrared-equipped device by producing an invisible beam of infrared light between the devices. Infrared performance varies depending on equipment, distance between infrared devices, and applications being used. The infrared port is IrDA-compliant and supports both low-speed connections up to 115 kilobits per second (Kbps) and high-speed connections up to 4 megabits per second (Mbps).

Operating system support for infrared communication is currently available with Microsoft Windows 98 (Second Edition), Windows Me, and Windows 2000 Professional.

Communicating with infrared

Infrared Connection Guidelines

- Be sure the infrared ports on both devices are turned on and facing each other at a distance no greater than 1.5 feet (about 0.5 meter).
- Avoid moving the infrared ports away from each other during data transmission.
- Avoid interference from remote control units, such as wireless headphones or audio devices, pointed at the infrared ports.
- Avoid direct sunlight, fluorescent light, or flashing incandescent light close to the infrared ports.
- Keep the path between the infrared ports free of any objects that might interfere with data transmission.
- Do not point one of the ports more than 30 degrees (plus or minus 15 degrees off the center line) away from the infrared port of the device you are connecting with.

Infrared Configuration Guidelines

- The infrared port default settings are as follows:
  - Port—COM3
  - Address—3
  - Interrupt request (IRQ)—3
- If you use Direct Cable Connection and the utility prompts you to choose a port for the infrared connection, you can select Serial Cable on COM5 or, if the computer is running a preinstalled Windows 98, Windows Me, or Windows 2000 Professional operating system, select Parallel Cable on LPT3.

Enabling the Infrared Port

The infrared port is enabled by default each time the computer starts up.

- When the infrared port is enabled, the infrared icon appears on the taskbar and Infrared Monitor Search is enabled by default.
- While the Infrared Monitor Search is enabled:
  - You can establish an infrared link.
  - The system cannot initiate Standby. User-initiated Standby is not affected.
- When the Infrared Monitor Search is disabled:
  - Power is conserved.
  - You cannot establish an infrared link.
  - The system can initiate Standby.

Connecting USB Equipment

USB (Universal Serial Bus) is a hardware interface that can be used to connect such low-speed external devices as a USB keyboard, mouse, drive, printer, scanner, or hub to the computer.

USB hubs connect to a USB port on the computer and then to other USB devices. Hubs support varying numbers of USB devices and are used to increase the number of USB devices in the system. Powered hubs must be connected to external power. Unpowered hubs must be connected either to the USB port on the computer or to a port on a powered hub.

A USB port on the computer supports USB devices only if the computer is running an operating system that supports USB. Windows 98, Windows Me, and Windows 2000 Professional support USB.

Some USB devices may require additional support software, which is usually included with the device. For more information and software installation instructions, refer to the documentation include with the device.

Connecting a Modem or NIC

The RJ-11 jack and the RJ-45 jack allow computer models with an internal modem, internal NIC (network interface card), or both to connect to a networked interface. You will need to purchase the modem and network cables if they are not provided with the computer.

Modem models will need an RJ-11 cable. To connect the cable:

1. Plug one end of the RJ-11 cable into the RJ-11 jack on the computer. If the RJ-11 cable contains a noise suppression circuit, which prevents interference with TV and radio reception, orient the cable so that the noise suppression circuitry is closest to the computer.

2. Plug the opposite end of the cable into a standard telephone wall jack. Or, if applicable, plug the opposite end of the cable into the phone plug adapter, which then plugs into the wall jack. Some countries may require an adapter to connect the modem to the telephone wall jack.

The NIC models will need an RJ-45 cable. To connect the cable:

1. Plug one end of the RJ-45 cable into the RJ-45 jack on the computer.
2. Connect the other end of the cable into the network jack.

For information about configuring communication software or drivers, refer to the *Modem and Networking* guide on the *Notebook Products Reference Library* CD.

Using the Security Slot

The security slot on the computer allows you to physically secure the computer. To use the security slot:

1. Insert the locking device into the security slot.
2. Turn the locking device clockwise 90 degrees.

To remove the device, turn the locking device counterclockwise 90 degrees and remove the device from the slot.

8

Computer Upgrades and Add-Ons

The computer supports several notebook accessories for you to upgrade and add on to your system.

To order accessories, visit the Compaq Web site at http://www.compaq.com, or refer to the *Worldwide Telephone Numbers* guide that came with your computer to contact a Compaq authorized dealer, reseller, or service provider.

Before Removing or Installing Components

CAUTION: Electrostatic discharge (ESD) can damage electronic components. Before beginning any procedure, ensure that you are discharged of static electricity by touching a grounded metal object. For more information, refer to the *Regulatory and Safety Notices* guide.

WARNING: The procedures provided in this section are the only user-accessible internal compartments on the computer. All other areas that require a tool to access should be opened only by a Compaq authorized service provider.

1. Shut down the computer.
2. Disconnect all external devices connected to the computer.
3. Disconnect the AC Adapter and remove the battery pack from the computer.

4. Use a #1 Phillips screwdriver to remove screws. As you remove screws from the computer, place them away from the work area to prevent loss.

Upgrading Memory

You can increase RAM (random access memory) with optional memory expansion boards or PC Cards.

To view the amount of RAM in the system:

- **Windows Me and Windows 98** —Select Start > Settings > Control Panel > Compaq Diagnostics.
- **Windows 2000**—Select Start > Programs > Administrative Tools > Compaq Diagnostics.

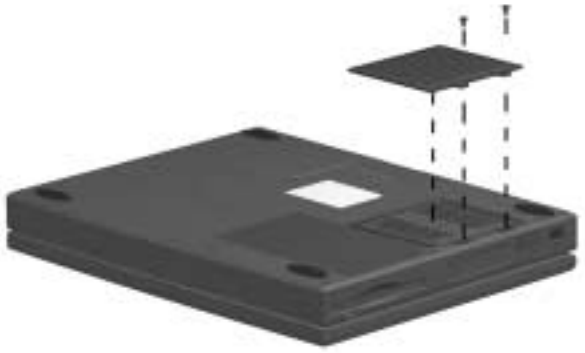
When RAM increases, the hard drive space reserved for the hibernation file also increases. Windows 98 manages this increase. If the computer is running Windows 2000 and you experience problems with Hibernation after increasing RAM, verify that your hard drive has enough free space for the larger hibernation file.

- To view the amount of space required by the hibernation file:
  - **Windows Me and Windows 98**—Select Start > Settings > Control Panel > Power > Hibernation tab.
  - **In Windows 2000**—Select Start > Settings > Control Panel > Compaq Power > Hibernation tab.
- To view the amount of free space on your hard drive, select My Computer. Right-click your hard drive, select Properties.

Removing and Inserting a Memory Expansion Board

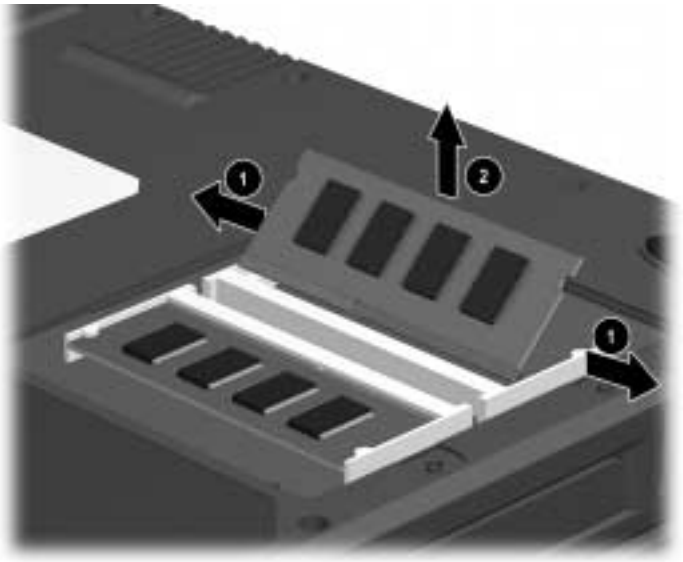
WARNING: Failure to unplug the power cord and remove the battery pack before installing a memory expansion board can damage the equipment and expose you to the risk of electrical shock.

1. Turn the computer bottom side up and remove the screws securing the memory cover.



Removing the memory cover

2. To remove a memory board, pull away the plastic retention clips on each side of the memory expansion board ❶. The memory expansion board tilts upward.
3. Lift the edge of the memory expansion board and slide it gently out of the memory expansion slot at a 45-degree angle ❷.



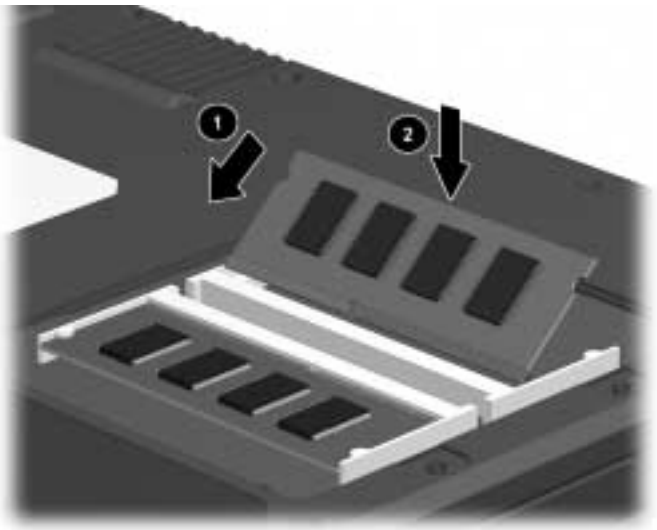
Removing a memory expansion board

4. Place the removed memory expansion board in an electrostatic-safe container.

5. To add a memory expansion board, insert it into the empty memory expansion slot at a 45-degree angle ❶. Then slide it gently into place until it is seated while tilted.

Memory expansion boards supported by the computer are keyed (notched) to ensure correct positioning.

6. Push the memory expansion board down until the plastic retention clips ❷ snap into place.



Inserting a memory expansion board

7. Replace the memory cover and reinstall the screws.

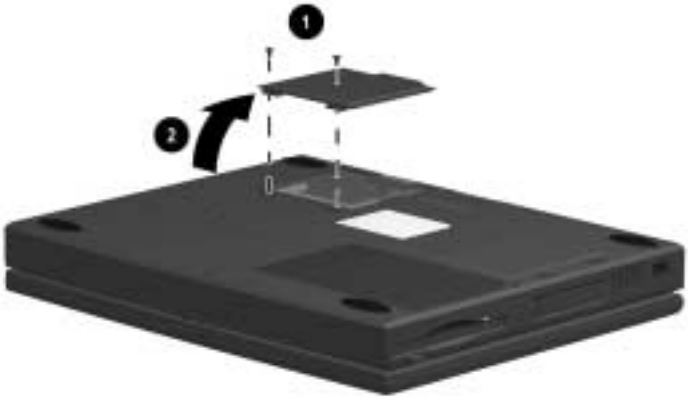
CAUTION: If the newly installed memory does not work correctly:

- Reseat the memory module.
- Memory module may be faulty. Contact the memory module manufacturer.

Upgrading or Adding a Modem or NIC

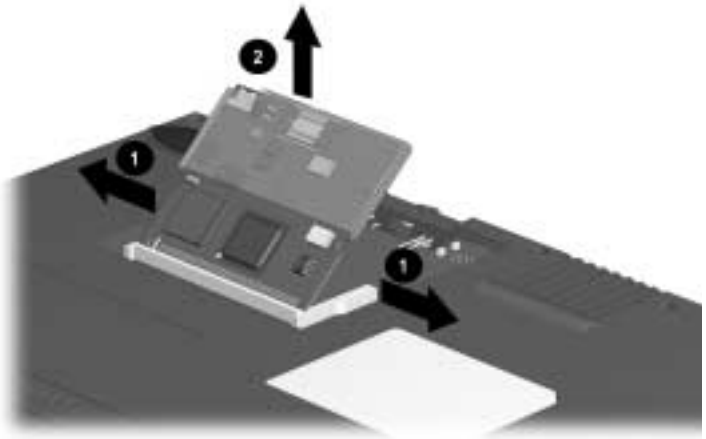
To remove or install a modem or NIC (network interface card):

1. Turn the computer bottom side up and remove the screws securing the Mini PCI compartment cover.



Removing the Mini PCI compartment cover

2. If a modem or NIC board is already installed, remove it by pulling away the plastic retention clips ❶ on each side of the board. The board tilts upward.
3. Lift the edge of the modem or NIC board ❷ and slide it gently out of the connector at a 45-degree angle.



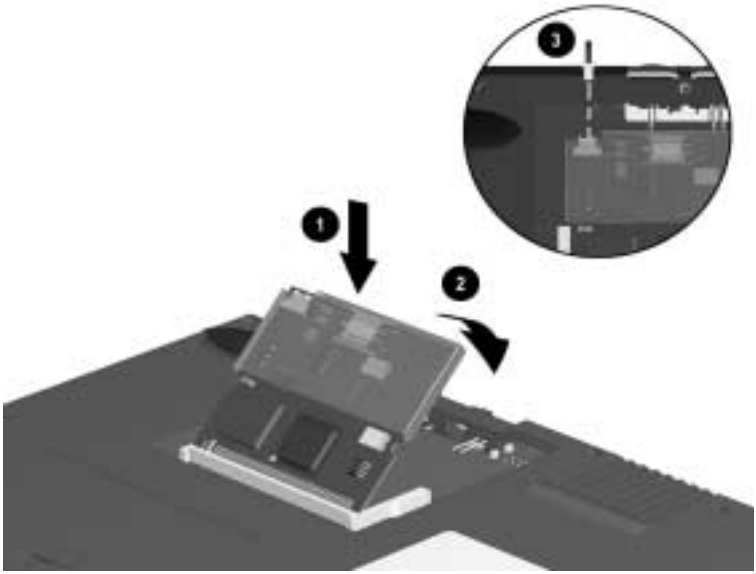
Removing a modem or NIC

4. Place the removed modem or NIC board in an electrostatic-safe container.

5. To add a new modem or NIC board, insert the board into the empty connector slot at a 45-degree angle ❶. Then slide it gently into place until it is seated while tilted.

The modem or NIC board connectors are keyed (notched) to ensure correct positioning.

6. Push the modem or NIC board down until the plastic retention clips ❷ snap into place.
7. Connect the internal modem/NIC cable ❸ to the modem or NIC.



Installing a modem or NIC

8. Replace the Mini PCI compartment cover and reinstall the screws.

To find additional modem and NIC information, refer to the following documents:

- The installation and operation guide included with your new modem or NIC accessory kit.
- *Modem and Networking* guide on this CD for configuring the modem and installing software.
- *Modem Commands* on this CD for AT Commands, including dial modifiers and instructions.

Adding and Using PC Cards

A PC Card is a credit card–sized accessory designed to conform to the standard specifications of the Personal Computer Memory Card International Association (PCMCIA). The computer supports both 32-bit CardBus and 16-bit PC Cards.

PC Cards are classified as Type I, Type II, and Type III. The three types are about the same length and width but vary in thickness.

Configuring a PC Card

CAUTION: If you install software or enablers provided by a PC Card manufacturer, you may not be able to use other PC Cards. If you are instructed by the documentation included with your PC Card to install device drivers:

- Install only the device drivers for your operating system.
- Do not install card services, socket services, or enablers.

In Windows 98, Windows Me, and Windows 2000 Professional, the operating system configures plug and play PC Cards.

Inserting a PC Card

CAUTION: To prevent damage to the connectors, use minimal pressure when inserting a PC Card into a PC Card slot.

1. Hold the PC Card label-side up with the connector facing the computer.
2. Gently push the card into the slot until the card is seated.

Inserting a PC Card

Removing a PC Card

CAUTION: Failure to remove a PC Card that extends beyond the computer before transporting the computer may cause permanent damage to the PC Card connectors.

In Windows 98, Windows Me, and Windows 2000 Professional, follow these steps:

1. Prepare the system for the PC Card removal. If the computer is on, click the command to stop the PC Card before you remove it To stop a PC Card, select the PC Card icon in the taskbar, then select the PC Card you want to stop, then select Stop Card. A message displays when the PC Card can be safely removed.

CAUTION: If the computer is on and running Windows 98, failure to stop a PC Card before removing it may result in loss of work or a system lockup.

2. Remove the PC Card by pressing the eject button.
3. Gently grasp and pull out the card.

Conserving Energy

When a PC Card is inserted in the computer, it draws power from the system even when a PC Card is not in use. To conserve power: in Windows 98 or Windows Me, select the command to stop PC Cards or remove PC Cards when they are not in use.

Installing Additional Device Drivers

Device drivers are programs or data files containing information needed to run a particular PC Card. Compaq preinstalls most of the device drivers you need onto the computer.

To save available memory, some device drivers are not turned on.

Some types of PC Cards, such as network cards, Global Positioning System (GPS) cards, SCSI cards, audio cards, and multifunction cards, require an additional software device driver to function properly. The device driver is provided by the PC Card manufacturer and should be installed according to the manufacturer instructions. Do not install other PC Card software that is provided by the manufacturer, even if prompted to do so. The other software may prevent the computer from working properly with all of your PC Cards.

Adding Wireless Devices

The computer supports a Compaq wireless device, such as the Mini PCI 802.11b or Bluetooth PC Card.

Consult an Authorized Compaq dealer for information on using wireless connectivity devices with your computer.

9

Specifications

This computer has been tested and found to comply with the limits for a Class B digital device. Refer to the *Regulatory and Safety Notices* guide on the *Notebook Products Reference Library* CD for governmental agency information.

Regulatory Agency Series Numbers

Regulatory agencies worldwide use agency series numbers for product identification. Each approved product displays the assigned agency series number. To ensure continued safe and reliable operation, use the computer only with the products listed below:

Agency Series Numbers

Product	Agency Series Number
Computer	PP2100
Battery Pack	PP2101
AC Adapter	PPP005N
Automobile Adapter	401043
Aircraft Adapter	386504
Modem	J07M040.00
Network Interface Card	U98M010 and U98M008

Computer Dimensions

Dimensions	U.S.	Metric
Height	1.63-in	41.5-mm
Width	12.5-in	318-mm
Depth	9.76-in	248-mm

Operating Environment

Factor	U.S.	Metric
Temperature		
Operating	50° to 95°F	10° to 35°C
Nonoperating	–4° to 140°F	–20° to 60°C
Relative humidity (noncondensing)		
Operating	10 to 90%	10 to 90%
Nonoperating	5 to 95%	5 to 95%
Maximum altitude (unpressurized)		
Operating	10,000 ft	3,048 m
Nonoperating	30,000 ft	9,144 m

Rated Input Power

Input Power	Rating
Operating voltage	100-120/220-240 VAC RMS
Operating current	1.3/0.65 A RMS
Operating frequency range	50-60 Hz AC
When powered by a DC source	18.5V MAX

This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 Vrms.

Port and COM Port Settings

Port	Port	Address	IRQ	DMA
Serial port		3F8h - 3FFh	4	
USB connector		1440-145Fh	11	
Parallel port		378 - 3FFh	7	3
Serial I/O connector	COM1	3F8h - 3FFh	4	
Internal modem	COM 2	2F8h - 2FFh	11	3
Infrared	COM 3	3E8h - 3EFhh	3	5

Communications Specifications

Temperatures		
Operating	32° to 167°F (0° to 75°C)	
Storage	-40° to 167°F (-40° to 75°C)	
Relative Humidity (non-condensing		
Operating	-10 to 90% (-10 to 90%)	
Storage	-5 to 95%@102°F (-5 to 95%@ 39°C)	
Interfaces	Communications connector	Standard RJ-11 telephone connector Standard RJ-45 network connector
	Telephone, central office network	Internal DAA
	Network	10Mbps Ethernet: IEEE 802.3 standard 10BaseT 100Mbps Ethernet: IEEE 802.3u standard 100Base TX
Power Requirements	+3.3 volts +/-5%, +3.3 vaux +/-5%, +5 volts +/-5%	
Specifications	Lucent Win Modem - Assy Type III, V.90 WW; refer to specifications 225641-001. Lucent Win Modem plus Intel PRO/100 P Mobile Combo Adapter - Assy, V.90 WW MDM, NIC, MPC13, refer to specification 218480-001.	

10

Computer Utilities

Utilities that are preinstalled on the computer include:

- **PhoenixBIOS Setup Utility**—Allows you to modify or restore factory default settings and configure the system BIOS to diagnose and solve minor problems.
- **Power Management**—Allows you to reduce your computer power consumption.
- **Security**—Allows you to set or remove your power-on password.

Using the PhoenixBIOS Setup Utility

The PhoenixBIOS Setup Utility (PSU) is built into the system. You can configure the system BIOS and modify or restore factory default settings, such as date and time, types of disk drives, power management, and password settings. To run PSU, press **F10** during system startup. When the main screen displays, use the keyboard and arrow keys to move around the menus and make selections.

Power Management

The computer operating system provides power management utilities that help you maintain and conserve power when the computer is running on battery power.

To access power management options, select the power application icon in the operating system's Control Panel.

Enabling Power Savings

The Enable Power Savings feature in Power Management controls all power management features. When set to disabled, the power menu is automatically disabled. The default setting is enabled.

Timeout Settings

You can set up timeout functions to power down computer components by selecting the Power Schemes tab from the power application in the operating system's Control Panel. When a component such as the monitor, hard drive, system, or video is not in use, the component powers down to conserve power. The time out interval can be set from one minute up to several hours. The component will power up again when you access it or press any key.

Setting Standby

Standby is initiated by pressing the **Fn+F4** hotkeys or automatically by the computer if it reaches your defined percentage of battery pack power remaining. When Standby is initiated, several subsystems will power off to conserve energy. The system will wake up from Standby when a key is pressed.

Although the Standby mode maintains your information and opens your file upon wake-up, you will lose any unsaved information if you turn off the computer before ending Standby.

Hibernation

Hibernation is an energy-saving saving feature and safeguard that saves information in RAM to a hibernation file on the hard drive, then shuts down the computer. Hibernation is initiated by the computer when the computer reaches your defined percentage of

battery pack power remaining. To wake the computer from Hibernation, press the power button. When you resume work, your information returns to the screen where you left off.

Security

You can set a power-on password that will secure the information you store on the hard disk. When turning on the computer, the password you set must be entered before you can access your files.

To set a password:

1. Press the Power button to turn on the computer.
2. Press **F10** when the Compaq logo appears on the screen. This will invoke the PhoenixBIOS Setup Utility (PSU).
3. Using arrow keys, select the Security option from the menu bar.
4. Move to select Set Supervisor Password and press **enter**.
5. Set your personal password, and press **enter**. You must confirm the password and press **enter** again.
6. Move to Password On Boot and press **enter**. Select enable and press **enter**.
7. Use arrow keys to select Exit from the menu bar.
8. Make sure the Exit Saving Changes is selected, then press **enter**.
9. Select Yes to save your changes and Exit.

The power-on password is now set. Every time you turn on the computer, resume working from Hibernation mode, or access PSU, you must enter this password.

To remove a password:

1. Access PSU by turning on the computer and pressing **F10** when the Compaq logo displays on the screen.
2. Enter your current password and press **enter**.
3. Move to Password On Boot. Use the + or - key to select disable and press **enter**.
4. Move to Set Supervisor Password. In the upper space, enter your current password and press **enter**. In the spaces to enter your new password and confirm new password, press **enter**. Press **enter** again to Exit the screen.
5. Use the arrow keys to select Exit from the menu bar.
6. Make sure Exit Saving Changes is selected. Press **enter**, then select Yes to save your changes and exit.

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